

Malay Tiger-beetles.

BY H. N. RIDLEY.

The tiger beetles (Cicindelidæ) are among the most attractive and conspicuous of our smaller beetles on account both of their bright colours, and their rapid movements in the full sun, in the hottest time of the day. They are exclusively carnivorous, chasing their prey consisting of smaller insects and usually flying very briskly, and usually require the use of the net to capture them. The Malay species may be divided into two groups, the jungle-tiger beetles and the road-tiger beetles. The former include species of the genera *Tricondyla* and *Collyris*.

Tricondyla aptera, Oliv., is the only species of this genus I have seen in the peninsula, and it is by no means common. I obtained a single specimen in the Botanic Gardens in Singapore, and there is also a specimen from Penang in the British Museum. It seems to be abundant in New Guinea and occurs also in Amboina, Aru Islands and Solomon Islands. It is our largest species, about $\frac{3}{4}$ inch long, and is also remarkable for being quite wingless, a narrow, elongate, deep blue beetle with slender antennæ, prominent eyes, and long red legs. I found it running about on the ground with the workers of the common large ant known as Semut Rajah, (*Camponotus gigas*). This ant makes nests in the bases of hollow trees, and the workers are commonly to be seen scampering about on paths, especially in the early morning and late evening, in search of food. The *Tricondyla* appears to mimic the ant, for though when the two insects are compared the resemblance is less striking, the general form, long legs, and method of running about cause the beetle to so much resemble the ant that I very nearly let it escape mistaking it for the ant.

Of the genus *Collyris* we have three species here and probably more will be found, as the species very closely resemble one another. They are much smaller than the *Tricondyla* but of very much the same shape, though they have

wings, slender long-legged beetles, blue or violet, which are often to be seen flying and scampering over leaves on bushes in the bright sunny spots of the jungle. The commonest species is *C. dolens*, Chand., which I have collected in Singapore, Selangor, Penang and elsewhere. *C. filiformis*, Chand., is a more slender species, bright violet blue with red legs. *C. apicalis*, Chand., is rather larger, very dark in colour, almost black, with red legs and a reddish patch at the apex of the elytra. It is common in the Botanic Gardens.

Therates humeralis has broader elytra and more resembles a road tiger-beetle. It is blue with tawny shoulders and red legs. I have collected it in Singapore.

Of the road tiger-beetles with broad elytra, which dart about on sandy roads, taking short flights, then running a little on their long legs and off again, we have two genera, *Cicindela* and *Heptadonta*. The first genus seems to be very widely distributed, abundant in Europe and North America as well as in the tropics. The larvæ of the temperate climate species are soft bodied with large heads and powerful jaws. They live in holes in the ground from the entrance of which they look out for passing insects on which to prey. The larvæ of our species doubtless resemble those of colder climates, but they have not yet been investigated.

The commonest species is *Cicindela aurulenta*, Fabr., which is very abundant on sandy roads in Singapore, Perak, Penang, Province Wellesley and elsewhere. It is abundant on the west Hill in Penang at an altitude of 3000 feet. The upper surface is of a dark blue green with six golden spots on the elytra. The abdomen beneath is coppery red. It has very powerful black curved jaws, but cannot bite though the skin. Altogether it is a very beautiful beetle.

C. fuliginosa, Dej., is smaller and rather less common, though by no means rare. The elytra have a dark brown key pattern on a cream ground. I have met with it in Singapore, Penang, Province Wellesley and Perak, and it will probably be found all over the peninsula as well.

Heptadonta analis, Fabr., has the same form and habits as the two *Cicindelas*, but is a plain dark blue-green beetle without any spots. It is widely distributed, occurring in Penang,

Selangor and Perak and is also found in Bombay, Java and Sumatra.

I identified these beetles by the collections in the Natural History Museum. There are probably other species to be found in the peninsula, especially in our hill regions, and as they are conspicuous and easy to catch there ought to be no difficulty in getting a complete set of the species of the peninsula.